Case 3042

Hydrosaurus gouldii Gray, 1838 (currently *Varanus gouldii*) and *Varanus panoptes* Storr, 1980 (Reptilia, Squamata): proposed conservation of the specific names by the designation of a neotype for *H. gouldii*

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Abstract. The purpose of this application is to conserve the near universal usage of the name *Varanus gouldii* (Gray, 1838) for the sand monitor or Gould's goanna which is found over most of Australia, and of *V. panoptes* Storr, 1980 for the yellow-spotted monitor from areas of western and northern Australia, New Guinea and Indonesia (family VARANIDAE). The present lectotype of *V. gouldii* is a specimen of *V. panoptes*, formally rendering the name *panoptes* a junior synonym of *gouldii*. It is proposed that the lectotype of *gouldii* be set aside and a neotype designated in accord with accustomed usage.

Keywords. Nomenclature; taxonomy; Reptilia; Squamata; VARANIDAE; lizards; sand monitor; Gould's goanna; yellow-spotted monitor; *Varanus gouldii*; *Varanus panoptes*; Australia; New Guinea; Indonesia.

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1. John Edward Gray was Keeper of Zoology at the British Museum, London, during the middle of the 19th century. He was responsible for describing and naming many taxa of the Australian herpetofauna. This included a large species of lizard which in 1838 (p. 394) he named *Hydrosaurus gouldii* in honour of the naturalist John Gould. As was then the custom, Gray did not refer to any type material.

2. Gray prepared an illustrated account of the lizard fauna of Australia and New Zealand collected during the 1839–1843 voyage to Antarctica led by Sir James Clark Ross. This had an interrupted publication in three works over 30 years (see Shea, 1995, pp. iii–vi). The first eight pages and pls. 1–4, 8–9, 12–14 and 20 were published in 1845 in vol. 2 of *The Zoology of the Voyage of H.M.S.* Erebus & Terror. The plates of this publication were reissued by Gray in 1867 under the title *The lizards of Australia and New Zealand*, and pls. 7, 10, 11 and 15–19 were added. Completion of

the publication of the reptile section of the *Zoology* was accomplished by A. Günther in 1875 after Gray's death; the 1867 publication was reissued and pp. 9–19 and pls. 5 and 6 were included for the first time. Gray (1845, pl. 3) described and illustrated a lizard under the name *Monitor gouldii* (Gray, 1838), from 'Western and North-western coast of Australia'. The plate, but not the description, was repeated in 1867 and 1875. The illustration clearly depicts a specimen with a dark tail with thin, indistinct pale bands. The tail tip is not distinctly yellow. The specimen is not *Varanus gouldii* as later understood but is conspecific with *V. panoptes* Storr, 1980 (see para. 4 below).

3. In 1958 Mertens (p. 248) designated a lectotype for *Hydrosaurus gouldii* Gray, 1838, now placed in *Varanus* Merrem, 1820. The specimen (catalogue no. BMNH 1.17a in the Natural History Museum, London, Gould collection; re-registered after the Second World War as 1946.9.7.61) was collected in northwestern Australia in 1837. It had been dried, stuffed and mounted.

4. In 1980 Storr published a review of the varanids of western Australia and distinguished a new species of large lizard as *Varanus panoptes*. He divided *V. panoptes* into two subspecies with disjunct ranges (fig. 10): the nominotypical subspecies (p. 273), based on the holotype R44792 in the Western Australian Museum, Perth, was from northern Australia; the subspecies *V. panoptes rubidus* (p. 276, pl. 8), based on the holotype R19132 in the Western Australian Museum, was from western Australia. These subspecies were later considered to belong to a single taxon (see Cogger, Cameron & Cogger, 1983, p. 131). Although Storr's new species *V. panoptes* was similar to and sympatric with *V. gouldii* Gray, 1838, in conducting his research Storr unfortunately did not examine Merten's lectotype of *V. gouldii* or refer to its designation.

5. Böhme (1991, fig. 1) demonstrated that Storr's *Varanus panoptes* and the lectotype of *V. gouldii* are conspecific. Mertens's (1958) lectotype specimen is dark brown, with a strongly spotted back, with rows of large dark spots alternating with smaller rows of light spots, and the tip of the tail is variegated with brown and dark brown; there is no uniformly yellow tail-tip. These diagnostic characters were used by Storr to distinguish his *V. panoptes* from *V. gouldii*. Böhme pointed out that, under the Code, the names *gouldii* and *panoptes* were synonyms and, applying strict priority, that the name *gouldii* should be used in place of *panoptes*, and that a new name was required for *gouldii* as currently understood, the first available being *flavirufus* Mertens, 1958 (p. 250; originally published as the subspecies *V. gouldii flavirufus*).

6. The specific names of *Varanus gouldii* and *V. panoptes* refer to two distinct biological taxa with different habitats and feeding requirements (see Shine, 1986). The name *gouldii*, as it has been used for 160 years and as currently used, refers to the sand monitor or Gould's goanna which is the most widespread monitor in Australia. It is found over most of the continent in woodland, shrubland and grassland on sandy soils. It eats mainly terrestrial prey. The name *panoptes* refers to the yellow-spotted monitor which is found in areas of northern and western Australia, New Guinea and Indonesia (para. 4 above). It is found on hard-packed ground associated with water, and eats mainly aquatic prey.

7. The names *Varanus gouldii* and *V. panoptes* are well entrenched in the literature and are still in use in their accustomed meanings after Böhme's (1991) paper. Recent

publications in which both names have appeared include Cogger, Cameron & Cogger (1983, pp. 129–130), Storr, Smith & Johnstone (1983), Wilson & Knowles (1988, pp. 356–358, pls. 657, 662, 663), Mattison (1989, p. 173), Covacevich & Couper (1991), Cogger (1992, pp. 366–368, 370 and plates), Ehmann (1992, pp. 149, 152), Sprackland (1992, pp. 85–92, 115–116), Glasby, Ross & Beesley (1993), Green & King (1993, pp. 8, 9), Press, Brock & Andersen (1995, p. 190), Steel (1996) and Switak (1996). Card & Kluge (1995, p. 276) noted: 'We follow Cogger (1992), not Böhme (1991), concerning the nomenclature of *V. gouldii* and *V. panoptes*'. In addition the name *gouldii* has appeared in publications by Frith (1987), Heatwole & Taylor (1987) and Hoser (1989, p. 115, figs. 288–293). Both *V. gouldii* and *V. panoptes* feature in documentation relating to conservation of protected species and their names are listed in the *World checklist of threatened amphibians and reptiles* (1993, pp. 48, 49) and in the most recent publication (1996) issued by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). *Varanus panoptes* has been the subject of at least one legal case in Australia (Neil Davie and the Victorian Association of Amateur Herpetologists, personal communication). The name *flavirufus* Mertens, 1958 has rarely appeared and to our knowledge has never been used in place of *gouldii*.

8. The names *Varanus gouldii* and *V. panoptes* are universally used and understood for their respective taxa. All the information in the considerable literature that deals with the species is carried under these names and to abandon the use of the well-known name *panoptes*, to switch the name *gouldii* from one taxon to another, and to adopt the virtually unused name *flavirufus* in place of *gouldii* as currently understood, as proposed by Böhme (1991), would cause enormous confusion. Some authors would follow the changes whilst others would not. Literature research would be difficult in that, without an explanation, it would be impossible to ascertain in which sense the name '*gouldii*' was being used, and any worker unaware of the nomenclatural situation might well think that *gouldii* (in the traditional sense) and *flavirufus* referred to two separate taxa. Such nomenclatural changes would be particularly difficult for non-systematists (those involved in ecology, conservation, behaviour studies and physiological research, for example) to grasp.

9. We propose that the specific names of *Varanus gouldii* (Gray, 1838) and *V. panoptes* Storr, 1980 be retained in their accustomed usages by setting aside Mertens's (1958) lectotype as the name-bearing specimen of *V. gouldii* and designating a neotype in accord with usage. This action would remove *panoptes* from the synonymy of *gouldii*, so allowing the usage of both names to continue. This approach is in accord with the Code, which urges nomenclatural stability in the use of names. We propose that specimen BMNH 1.17b in the reptile collections of the Natural History Museum, London, be designated as the neotype of *Hydrosaurus gouldii* Gray, 1838. The specimen is 372 mm (svl), stuffed and mounted, with part of the tail missing. It is listed in the Accessions Register as 'Northwestern Australia. From Mr Gould's collection', and displays the characteristic features of *Varanus gouldii* as traditionally understood (tail distally yellow, tail rings neither distinct nor of evenly-distributed spots, and the dorsal pattern irregular, contrasting with the regularly-spaced, distinctly round spots of *V. panoptes*). We find it fitting that the proposed neotype is a specimen from the collection of the species's namesake.

10. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to set aside all previous type fixations for the nominal species *Hydrosaurus gouldii* Gray, 1838 and to designate as neotype the specimen BMNH 1.17b in the Natural History Museum, London;

(2) to place on the Official List of Specific Names in Zoology the following names:
   (a) *gouldii* Gray, 1838, as published in the binomen *Hydrosaurus gouldii* and as defined by the neotype designated in (1) above;
   (b) *panoptes* Storr, 1980, as published in the binomen *Varanus panoptes* and as defined by the holotype (catalogue no. R44792 in the Western Australian Museum, Perth).

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